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EXAMINER	
YUEN, KAN	

  

ART UNIT	PAPER NUMBER
2616	

  

NOTIFICATION DATE	DELIVERY MODE
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/633,444

Applicant(s)

ROEDER, MICHAEL T.

Examiner

Kan Yuen

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Arguments***

1. Applicant's arguments filed 11/19/2007 have been fully considered but they are not persuasive. Applicant argued in claims 1 and 7, that Chung et al. provides method to suppressed ICMP message is not desirable in the routing technique of Fig. 4.

However, applicant did not claim that the ICMP should not be suppressed, and therefore the argument is not persuasive.

2. Applicant's arguments filed 11/19/2007 have been fully considered but they are not persuasive. Applicant argued in claims 17 and 23, by adding "performing the automated selection of the router to respond to the ARP request". In fact, Siev et al. did disclosed the method in paragraph 0041, that upon receiving an ARP request from router 170 the leader server performing the automated selection of which server to respond by determines whether the requested IP address belongs to a remote client 150 of the server farm or it is one of the joint IP addresses. If not, the leader ignores the request. If yes, the leader checks whether this IP address has been already assigned to one of the servers. If yes, the leaders ignores the request else the leaders determines according to the current load of each servers, which one will be assigned to respond to the request. Thus, the argument is not persuasive.

***Claim Rejections - 35 USC § 103***

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siev et al. (Pub No.: 2004/0071087), in view of Chung et al. (Pat No.: 6470389).

For claim 1, Siev et al. disclosed the method of receiving a packet at a first router from a source host to be forwarded to a destination host (see paragraph 0020, lines 1-8, and paragraph 0021, lines 1-12, and fig. 1). As shown in the fig., a packet is sent from a client network 150, to the destination network 180; applying an algorithm at the first router to select a second router to be a next gateway for the source host for packets destined to the destination host (see paragraph 0028, lines 1-15, 0029, lines 1-15, and 0030, lines 1-5, and see fig. 1, and see abstract). When a selecting algorithm is applied at a server, the server request to be a leader by generating a type A message and broadcast to other servers. If there is no response, the servers who have the largest IP

address will become the leader or gateway. However Siev et al. did not disclosed the method of sending an ICMP redirect message from the first router to the source host to reset a default gateway of the source host to be the second router for packets destined to the destination host. Chung et al. from the same or similar fields of endeavor teaches the method of sending an ICMP redirect message from the router to the source host to reset the gateway of the source host for packets destined to the destination host (see column 8, lines 16-30, and see fig 4.). Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use the method as taught by Chung et al. in the network of Siev et al. The motivation for using the method as taught by Chung et al. in the network of Siev et al. being that it provides a way to bypass the dispatcher 64 and go directly to the end point.

Claim 7 is rejected as in claim 1, because claim 7 is an apparatus claim, and claim 1 is a method claim.

6. Claims 2, 4, 5, 8, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siev et al. (Pub No.: 2004/0071087), in view of Chung et al. (Pat No.: 6470389), as applied to claim 1 above, and further in view of Inoue et al. (Pub No.: 2003/0108052).

For claim 2, Siev et al. and Chung et al. both disclosed all the subject matter of the claimed invention with the exception of the algorithm comprises a pseudo-random algorithm. Inoue et al. from the same or similar fields of endeavor teaches the method of

a pseudo-random algorithm (see paragraph 0021, lines 1-8). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the method as taught by Inoue et al. in the network of Siev et al. and Chung et al. The motivation for using the method as taught by Inoue et al. in the network of Siev et al. and Chung et al. being that it provides uniform distribution to the destination.

Regarding claim 4, Inoue et al. also disclosed the method of the algorithm comprises a hash function, wherein an output of the hash function returns an index of a router to be used to route subsequent packets with a same hash value (see paragraph 0075, lines 1-5, 0076, lines 1-5, and see fig. 5, selecting module 47).

Regarding claim 5, Inoue et al. also disclosed the method of the hash function is a function of any combination of the IP addresses of the destination and source hosts of the packet (see paragraph 0074, lines 1-4).

Regarding claim 8, Inoue et al. also disclosed the method of the selection module comprises a pseudo-random number generator (see paragraph 0021, lines 1-8).

Regarding claim 10, Inoue et al. also disclosed the method of the selection module applies a hash function (see paragraph 0075, lines 1-5, 0076, lines 1-5, and see fig. 5, selecting module 47).

Regarding claim 11, Inoue et al. also disclosed the method of the hash function is a function of the source IP address (see paragraph 0074, lines 1-4).

Regarding claim 12, Inoue et al. also disclosed the method of the hash function is a function of a combination of the source and destination IP addresses (see paragraph 0074, lines 1-4).

7. Claims 3, 6, 9, 13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siev et al. (Pub No.: 2004/0071087), in view of Chung et al. (Pat No.: 6470389), as applied to claim 1 above, and further in view of Datta et al. (Pat No.: 6493341).

For claim 3, Siev et al. and Chung et al. both disclosed all the subject matter of the claimed invention with the exception of the algorithm selects the next default gateway using a round robin type selection process. Datta et al. from the same or similar fields of endeavor teaches the method of the algorithm selects the next default gateway using a round robin type selection process (see column 8, lines 31-40). Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use the method as taught by Datta et al. in the network of Siev et al. and Chung et al. The motivation for using the method as taught by Datta et al. in the network of Siev et al. and Chung et al. being that each node will take turn to become a gateway.

Regarding claim 6, Datta et al. also disclosed the method of the algorithm is load based, and further comprising communicating load levels amongst the plurality of routers (see column 23, lines 21-37).

Regarding claim 9, Datta et al. also disclosed the method of the selection module applies a round-robin type algorithm to select the next gateway (see column 8, lines 31-40).

Regarding claim 13, Datta et al. also disclosed the method of the apparatus is configured to communicate load levels to and receive load levels from other routing apparatus, and wherein the selection module applies a load-based algorithm (see column 23, lines 21-37).

Regarding claim 15, Datta et al. also disclosed the method of weighted round robin algorithm (see column 8, lines 31-40).

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siev et al. (Pub No.: 2004/0071087), in view of Chung et al. (Pat No.: 6470389), as applied to claim 13 above, and further in view of Datta et al. (Pat No.: 6493341), and Lamberton et al. (Pat No.: 7003581).

For claim 14, Siev et al. Datta et al. and Chung et al. disclosed all the subject matter of the claimed invention with the exception of the load-based algorithm comprises a weighted hash algorithm. However, Lamberton et al. from the same or similar fields of endeavor teaches the method of the load-based algorithm comprises a weighted hash algorithm (see column 5, lines 14-36). Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use the method as taught by Lamberton et al. in the network of Siev et al. Datta et al. and Chung et al. The motivation for using the method as taught by Lamberton et al. in the network of Siev et al. Datta et al. and Chung et al. being that it provides a data transmission



system including an IP network wherein the IP host can select directly the router with high availability.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siev et al. (Pub No.: 2004/0071087), in view of Chung et al. (Pat No.: 6470389), as applied to claim 13 above, and further in view of Datta et al. (Pat No.: 6493341), and Inoue et al. (Pub No.: 2003/0108052).

For claim 16, Siev et al., Chung et al. and Datta et al. disclosed all the subject matter of the claimed invention with the exception of a pseudo-random algorithm. Inoue et al. from the same or similar fields of endeavor teaches the method of a pseudo-random algorithm (see paragraph 0021, lines 1-8). Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use the method as taught by Inoue et al. in the network of Siev et al. Datta et al. and Chung et al. The motivation for using the method as taught by Inoue et al. in the network of Siev et al. Datta et al. and Chung et al. being that it provides uniform distribution to the destination.

10. Claims 17-19, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siev et al. (Pub No.: 2004/0071087), in view of Inoue et al. (Pub No.: 2003/0108052).

For claim 17, Siev et al. disclosed the method of receiving an address resolution protocol (ARP) request at the plurality of routers from a requesting host from a source

IP address in relation to a destination IP address (see paragraph 0010, lines 1-10, and 0011, lines 1-8). The servers received ARP requested from a source, which included a target IP address, and target node responds by sending back its physical address; performing the automated selection of the router to respond to the ARP request by applying an algorithm at each router to determine which single router is to respond to the ARP request (see paragraph 0041, lines 1-8). Upon receiving an ARP request from router 170 the leader server performing the automated selection of which server to respond by determines whether the requested IP address belongs to a remote client 150 of the server farm or it is one of the joint IP addresses. If not, the leader ignores the request. If yes, the leader checks whether this IP address has been already assigned to one of the servers. If yes, the leaders ignores the request else the leaders determines according to the current load of each servers, which one will be assigned to respond to the request. Thus, the argument is not persuasive.

However Siev et al. did not disclosed the method of sending an ARP reply from the responding router to the requesting host. Inoue et al. from the same or similar fields of endeavor teaches the method of sending an ARP reply from the responding router to the requesting host (see paragraph 0104, lines 1-9, and see paragraph 0118, lines 1-5, and see fig. 3 client terminal 3, router 4, and server load balancers 1-3). The client terminals request an ARP message by sending the first packet to the router, and the router modified the first packet and sent out the second packet to the server balancers. Finally the fourth packet is forwarded from router 4 back to the terminal 3. Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention

to use the method as taught by Inoue et al. in the network of Siev et al. The motivation for using the method as taught by Inoue et al. in the network of Siev et al. being that it saves the node capacity for storing other node addresses.

Regarding claim 18, Inoue et al. also disclosed the method of a packet from the source IP address to the destination IP address (see paragraph 0102, lines 1-5).

Regarding claim 19, Inoue et al. also disclosed the method of the algorithm comprises a hash function (see paragraph 0075, lines 1-5).

Claim 23 is rejected as in claim 17, because claim 23 is the system claim, and claim 17 is the method claim.

11. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siev et al. (Pub No.: 2004/0071087), in view of Inoue et al. (Pub No.: 2003/0108052), as applied to claim 17 above, and further in view of Datta et al. (Pat No.: 6493341).

For claim 21, Siev et al. and Inoue et al. disclosed all the subject matter of the claimed invention with the exception of the algorithm determines the responding router using a round robin type selection process. Datta et al. from the same or similar fields of endeavor teaches the method of the algorithm determines the responding router using a round robin type selection process (see column 8, lines 31-40). Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use the method as taught by Datta et al. in the network of Siev et al., and Inoue et al. The motivation for using the method as taught by Datta et al. in the network of Siev et

al., and Inoue et al. being that the system allows each node in the network to receive equal distribution.

Regarding claim 22, Datta et al. also disclosed the method of the algorithm is load based, and further comprising communicating load levels amongst the plurality of routers (see column 23, lines 21-37).

12. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siev et al. (Pub No.: 2004/0071087), in view of Inoue et al. (Pub No.: 2003/0108052), as applied to claim 19 above, and further in view of Blair (Pat No.: 6778495).

For claim 20, Siev et al. and Inoue et al. disclosed all the subject matter of the claimed invention with the exception of the hash function is a function of the source and destination IP addresses. Blair from the same or similar fields of endeavor teaches the method of the hash function is a function of the source and destination IP addresses (background of the invention, see column 2, lines 5-11). Thus, it would have been obvious to the person of ordinary skilled in the art at the time of the invention to use the method as taught by Blair in the network of Siev et al. and Inoue et al. The motivation for using the method as taught by Blair in the network of Siev et al. and Inoue et al. being that it provides multiple links between two or more sites, providing no requirements to add a sequence header or rearrange packets to compensate for different transit times over different links.

### ***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kan Yuen whose telephone number is 571-270-2413. The examiner can normally be reached on Monday-Friday 10:00a.m-3:00p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky O. Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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